

REMARKS

Claims 9-11 are currently active.

Claim 9 has been amended. Antecedent support for the temperature range limitation added to Claim 9 is found on page 6, lines 5 and 6.

Claims 10 and 11 have been added. Antecedent support for Claims 10 and 11 are found in original Claims 2 and 3.

The Examiner has rejected Claim 9 as being anticipated by Heyroth.

The Examiner has rejected Claim 9 as being unpatentable over Coes in view of Mizuhara.

The applicants respectfully traverse this rejection in view of the amendment to Claim 9. Both rejections are responded to as follows.

All three patents of the applied art of record, Heyroth (2,319,323), Coes (4,070,197), Mizuhara (4,783,229) utilize a bonding mechanism which is called diffusion

bonding. High joint strength is obtained with diffusion bonding only at high temperatures. In the patents above, Heyroth required about 1800 degrees C and Coes required 1970-2150 degrees C for silicon carbide (SiC) materials and Mizuhara required about 1700 degrees C for alumina ( $\text{Al}_2\text{O}_3$ ) materials. Note that in the above three patents that these high temperatures cause softening of the materials to be joined, which allows them to bend or flex under a load due to gravity or other means, specifically shrinkage of the joining material.

To contrast the bonding mechanisms, the claimed invention, as amended, requires 850-1400 degrees C to achieve a high strength bond.

In fact, on page 6, lines 3-7, of the specification of the above-identified patent application, applicants state "[T]his joint can be achieved at a low temperature relative to a diffusion bond, which occurs in approximately 2200 degrees centigrade. The joint may be achieved anywhere in the range from 850 degrees centigrade up to 1400 degrees centigrade."

Accordingly, Claim 9 is not anticipated by Heyroth, nor is it obvious from Coes in view of Mizuhara, and is patentable over the applied art of record.

In view of the foregoing amendments and remarks, it is respectfully requested that the outstanding rejections and objections to this application be reconsidered and withdrawn, and Claims 9-11, now in this application be allowed.

**CERTIFICATE OF MAILING**

I hereby certify that the correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Assistant Commissioner for Patents, Washington, D.C. 20231.

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Ansel M. Schwartz  
Ansel M. Schwartz  
Registration No. 30,587  
12/10/04  
Date

Respectfully submitted,

FREDERICK M. MAKO, ET AL.

By Ansel M. Schwartz  
Ansel M. Schwartz, Esquire  
Reg. No. 30,587  
One Sterling Plaza  
201 N. Craig Street  
Suite 304  
Pittsburgh, PA 15213  
(412) 621-9222

Attorney for Applicants